

CLAIMS

What is claimed is:

1. A method of enhancing the cooking performance of microwave interactive packaging material comprising:
placing the microwave interactive packaging material adjacent to a food product; and
covering at least a portion of the microwave interactive packaging material with an insulating material; wherein
the insulating material insulates at least the portion of the microwave interactive packaging material and at least a portion of the food product from the environment of a microwave oven.
2. The method as described in claim 1 further comprising surrounding the food product with the microwave interactive packaging material.
3. The method as described in claim 1 wherein the step of covering further comprises surrounding the microwave interactive packaging material with the insulating material.
4. The method as described in claim 1 further comprising moistening the insulating material.
5. The method as described in claim 2 further comprising creating a vent opening in the microwave interactive packaging material.
6. The method as described in claim 1, wherein the microwave interactive packaging material comprises a susceptor.
7. The method as described in claim 1, wherein the insulating material is at least one material selected from a group comprising: paper towels, cloth, non-woven substrates, corrugated paper, corrugated paperboard, quilted paper, heat resistant multi-layer films formed with air pockets, glass fiber, air cell foams, air cell gels, and air cell rubber.
8. The method as described in claim 1, wherein the microwave interactive material comprises:
a first substrate layer adapted to bulge upon impingement of the microwave

- interactive material by microwave energy; and
- a second substrate layer bonded to the first substrate layer, wherein
- a plurality of insulating pockets are formed between the first substrate layer and the second substrate layer upon impingement of the microwave interactive material by microwave energy; and wherein
- the step of covering further comprises forming the plurality of insulating pockets upon impingement of the microwave interactive material by microwave energy, wherein
- the microwave interactive material is transformed to further comprise the insulating material.
9. An insulating microwave packaging material comprising:
- a first substrate layer adapted to bulge upon impingement of the microwave packaging material by microwave energy; and
- a second substrate layer bonded to the first substrate layer, wherein
- a plurality of insulating pockets are formed between the first substrate layer and the second substrate layer upon impingement of the microwave interactive material by microwave energy.
10. The insulating microwave packaging material as described in claim 9, wherein the second substrate layer is adapted to contract in at least one of the X and Y directions upon impingement by microwave energy.
11. The insulating microwave packaging material as described in claim 9, wherein the bond between the first substrate layer and the second substrate layer comprises a pattern of closed cells that define the insulating pockets.
12. The insulating microwave packaging material as described in claim 9, wherein the first substrate layer comprises a microwave interactive material.
13. The insulating microwave packaging material as described in claim 12, wherein the microwave interactive material further comprises a susceptor.
14. The insulating microwave packaging material as described in claim 9, wherein the second substrate layer comprises a plastic film.

15. The insulating microwave packaging material as described in claim 14, wherein the plastic film further comprises a biaxially-oriented polyester film.

16. The insulating microwave packaging material as described in claim 9, wherein the second substrate layer comprises a microwave interactive material.

17. The insulating microwave packaging material as described in claim 16, wherein the microwave interactive material further comprises a susceptor.

18. The insulating microwave packaging material as described in claim 16, wherein the susceptor further comprises a susceptor film supported on paperboard.

19. The insulating microwave packaging material as described in claim 9, wherein the first substrate layer comprises a plastic film.

20. The insulating microwave packaging material as described in claim 19, wherein the plastic film further comprises an amorphous polyester film.

21. An insulating microwave packaging material comprising:
a first substantially vapor impermeable substrate;
a layer of microwave interactive material supported by the first substantially vapor impermeable substrate;
a dimensionally stable substrate bonded to the layer of microwave interactive material; and
a second substantially vapor impermeable substrate bonded to the dimensionally stable substrate, wherein
the second substantially vapor impermeable substrate and the dimensionally stable substrate are bonded along bond lines formed in a pattern;
the bond lines are substantially vapor impermeable; and
the pattern defines a plurality of closed cells bounded by the second substantially vapor impermeable substrate, the dimensionally stable substrate, and the bond lines; wherein,
upon impingement of the insulating microwave packaging material by microwave energy in a microwave oven, each of the plurality of closed cells expands to form an insulating pocket comprising:
a bulging side; and

an opposing side; wherein

the bulging side comprises a portion of each of the first substantially vapor impermeable substrate, the microwave interactive material layer, and the dimensionally stable substrate;

the opposing side comprises a portion of the second substantially vapor impermeable substrate; and

the bulging side lofts away from the opposing side.

22. An insulating microwave packaging material comprising:

a first substantially vapor impermeable substrate;

a layer of microwave interactive material supported by the first substantially vapor impermeable substrate;

a dimensionally stable substrate bonded to the layer of microwave interactive material; and

a second substantially vapor impermeable substrate bonded to the dimensionally stable substrate, wherein

the second substantially vapor impermeable substrate and the dimensionally stable substrate are bonded along bond lines formed in a pattern;

the bond lines are substantially vapor impermeable; and

the pattern defines a plurality of closed cells bounded by the second substantially vapor impermeable substrate, the dimensionally stable substrate, and the bond lines; wherein,

upon impingement of the insulating microwave packaging material by microwave energy in a microwave oven, each of the plurality of closed cells expands to form an insulating pocket comprising:

a bulging side; and

an opposing side; wherein

the bulging side comprises a portion of the second substantially vapor impermeable substrate;

the opposing side comprises a portion of each of the first substantially vapor impermeable substrate, the microwave interactive material layer, and the dimensionally stable substrate; and

the bulging side lofts away from the opposing side.

23. The insulating microwave packaging material as described claim 21, wherein when a food product is situated adjacent to the first substantially vapor impermeable substrate, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, each of the insulating pockets insulates at least one of the food product and the layer of microwave interactive material from the microwave oven environment to reduce heat transfer from at least one of the food product and the layer of microwave interactive material to the microwave oven environment.

24. The insulating microwave packaging material as described in claim 22, wherein when a food product is situated adjacent to the second substantially vapor impermeable substrate, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, each of the insulating pockets insulates at least one of the food product and the layer of microwave interactive material from the microwave oven environment to reduce heat transfer from at least one of the food product and the layer of microwave interactive material to the microwave oven environment.

25. The insulating microwave packaging material as described in claim 22, wherein when a food product is situated adjacent to the second substantially vapor impermeable substrate, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, each of the insulating pockets insulates at least one of the food product and the layer of microwave interactive material from a consumer's skin to reduce heat transfer from at least one of the food product and the insulating microwave packaging material to the consumer's skin when the consumer removes the insulating microwave packaging material from the microwave oven after cooking.

26. The insulating microwave packaging material as described claim 21 or 22, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, moisture trapped in the dimensionally stable substrate heats and expands as a vapor, creating pressure, which forms the insulating pocket.

27. The insulating microwave packaging material as described claim 21 or 22, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, the microwave interactive material layer creates sensible heat that further heats moisture trapped in the dimensionally stable substrate, which moisture expands as a vapor, creating pressure, which forms the insulating pocket.

28. The insulating microwave packaging material as described claim 21, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, the microwave interactive material layer creates sensible heat that further heats and softens the first substantially vapor impermeable substrate, decreasing resistance of the first substantially vapor impermeable substrate to the formation of the insulating pocket.

29. The insulating microwave packaging material as described claim 22, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, the microwave interactive material layer creates sensible heat that further heats and softens the second substantially vapor impermeable substrate, decreasing resistance of the second substantially vapor impermeable substrate to the formation of the insulating pocket.

30. The insulating microwave packaging material as described claim 21, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven,

the microwave interactive material layer creates sensible heat that further heats the second substantially vapor impermeable substrate, and

the second substantially vapor impermeable substrate contracts in at least one of the X and Y directions, enhancing the loft of the bulging side.

31. The insulating microwave packaging material as described claim 21 or 22, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, the opposing side remains substantially flat.

32. The insulating microwave packaging material as described claim 21, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, a distance between the second vapor impermeable substrate and the dimensionally stable substrate in a center of each of the plurality of closed cells increases by at least an order of magnitude more than the distance before such impingement.

33. The insulating microwave packaging material as described claim 21, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, a distance between the second vapor impermeable substrate and the

dimensionally stable substrate in a center of each of the plurality of closed cells increases by up to 30 times more than the distance before such impingement.

34. The insulating microwave packaging material as described claim 21 or 22, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, the microwave interactive material layer becomes insulated from the microwave oven environment to reduce heat transfer from the layer of microwave interactive material to the microwave oven environment.

35. The insulating microwave packaging material as described claim 21, further comprising:

a first edge; and

a second edge opposite the first edge; wherein

the first edge is bonded to the second edge; and

the microwave packaging material forms a sleeve for surrounding the food product.

36. The insulating microwave packaging material as described claim 35, wherein the first substantially vapor impermeable substrate comprises an interior surface of the sleeve; and

the second substantially vapor impermeable substrate comprises an exterior surface of the sleeve.

37. The insulating microwave packaging material as described claim 35, wherein the bond between the first edge and the second edge is formed by an adhesive.

38. The insulating microwave packaging material as described claim 36, wherein the bond between the first edge and the second edge is formed by a heat seal.

39. The insulating microwave packaging material as described in claim 21 or 22, wherein the pattern comprises an array of shapes selected from a group comprising: a circle, an oval, a curvilinear shape, a symmetrical curvilinear shape, a triangle, a square, a rectangle, a polygon, a right polygon, and an equilateral polygon.

40. The insulating microwave packaging material as described in claim 39, wherein the equilateral polygon is a hexagon.

41. The insulating microwave packaging material as described in claim 39, wherein each of the shapes in the array is nested with each adjacent shape in the array in a tile-like pattern.

42. The insulating microwave packaging material as described in claim 39, wherein each of the shapes in the array is elongate and oriented parallel to adjacent shapes.

43. The insulating microwave packaging material as described in claim 21, wherein

a portion of a first sheet of the insulating microwave packaging material is bonded to a portion of a second sheet of the insulating microwave packaging material; and

the second substantially vapor impermeable substrate of the first sheet faces the second substantially vapor impermeable substrate of the second sheet.

44. The insulating microwave packaging material as described in claim 43, wherein

the first sheet is defined by a first perimeter;

the second sheet is defined by a second perimeter; and

the first sheet is bonded to the second sheet at a plurality of points spaced apart along the first perimeter and the second perimeter, wherein,

the first sheet and the second sheet are substantially unrestricted from contraction in at least one of the X and Y directions, and wherein

upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven,

the microwave interactive material layer creates sensible heat that further heats the second substantially vapor impermeable substrate of each of the first sheet and the second sheet, and

the second substantially vapor impermeable substrate of each of the first sheet and the second sheet contracts in at least one of the X and Y directions, enhancing the loft of the bulging side of each of the insulating pockets.

45. The insulating microwave packaging material as described in claim 43, wherein, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven,

the first sheet deforms into a convex canopy with respect to a plane dividing the first

sheet and the second sheet; wherein

a space is created between the first sheet and the second sheet.

46. The insulating microwave packaging material as described in claim 43, wherein, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven,

the second sheet deforms into a convex canopy with respect to a plane dividing the first sheet and the second sheet; wherein

a space is created between the first sheet and the second sheet.

47. The insulating microwave packaging material as described in claim 44, wherein

when the food product is situated over at least a portion of the first sheet, and the second sheet is situated against a surface of the microwave oven,

upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven,

the microwave interactive material layer of the second sheet heats the surface of the microwave oven and the first sheet,

counteracting the heat transfer between the food product and the surface of the microwave oven;

augmenting the contraction of the second substantially vapor impermeable substrate of the first sheet; and

enhancing the expansion of each of the plurality of closed cells of the first sheet.

48. The insulating microwave packaging material as described in claim 21, wherein

a first sheet of the insulating microwave packaging material defined by a first perimeter is bonded to a second sheet of the insulating microwave packaging material defined by a second perimeter;

at least a portion of the first perimeter is bonded to at least a portion of the second perimeter creating a cavity between the first sheet and the second sheet for receiving a food product; and

the first substantially vapor impermeable substrate of the first sheet faces the first substantially vapor impermeable substrate of the second sheet.

49. The insulating microwave packaging material as described in claim 48, wherein an opening to the cavity between the first sheet and the second sheet is provided.

50. The insulating microwave packaging material as described in claim 49, wherein the opening is large enough to accept the food product, and the cavity comprises a pouch.

51. The insulating microwave packaging material as described in claim 49, wherein the opening is a vent to allow water vapor to escape from the cavity during cooking of the food product.

52. The insulating microwave packaging material as described in claim 48, wherein all of the first perimeter is bonded to all of the second perimeter and the food product in the cavity is completely enclosed by the first sheet and the second sheet.

53. The insulating microwave packaging material as described in claim 48, wherein

a third sheet of the insulating microwave packaging material defined by a third perimeter is bonded to the second sheet at a plurality of points spaced apart along the third perimeter and the second perimeter; and

the second substantially vapor impermeable substrate of the second sheet faces the second substantially vapor impermeable substrate of the third sheet; and wherein

when the food product is situated within the cavity, and

the third sheet is situated against a surface of the microwave oven,

upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven,

the microwave interactive material layer of the third sheet heats the surface of the microwave oven and the second sheet,

counteracting the heat transfer between the food product and the surface of the microwave oven;

augmenting the contraction of the second substantially vapor impermeable substrate of the second sheet; and

enhancing the expansion of each of the plurality of closed cells of the second sheet.

54. The insulating microwave packaging material as described in claim 21, wherein the first substantially vapor impermeable substrate comprises a biaxially-oriented polyester film.

55. The insulating microwave packaging material as described in claim 21, wherein the second substantially vapor impermeable substrate comprises a biaxially-oriented polyester film.

56. The insulating microwave packaging material as described in claim 22, wherein the second substantially vapor impermeable substrate comprises an amorphous polyester film.

57. The insulating microwave packaging material as described in claim 21 or 22, wherein the microwave interactive material layer comprises aluminum.

58. The insulating microwave packaging material as described in claim 21 or 22, wherein the dimensionally stable substrate is selected from a group comprising: paper, paperboard, and plastic.

59. The insulating microwave packaging material as described in claim 21 or 22, wherein the bond lines comprise an adhesive.

60. The insulating microwave packaging material as described in claim 21 or 22, wherein the portions of the microwave interactive material are inactivated in the same pattern as the bond lines.

61. The insulating microwave packaging material as described in claim 59, wherein the adhesive penetrates the dimensionally stable substrate to form a substantially vapor impermeable barrier in conjunction with the first substantially vapor impermeable substrate.

62. The insulating microwave packaging material as described in claim 21 or 22, wherein the bond lines comprise a heat seal.

63. The insulating microwave packaging material as described in claim 62, wherein the heat seal is formed by melting the second substantially vapor impermeable substrate along the bond lines, and wherein a melted portion of the second substantially vapor

impermeable substrate penetrates the dimensionally stable substrate to form a substantially vapor impermeable barrier in conjunction with the first substantially vapor impermeable substrate.

64. A method of making an insulating microwave packaging material, the method comprising:

providing a first substantially vapor impermeable substrate;

supporting a layer of microwave interactive material on the first substantially vapor impermeable substrate;

bonding a dimensionally stable substrate to the layer of microwave interactive material; and

bonding a second substantially vapor impermeable substrate to the dimensionally stable substrate along bond lines formed in a pattern, wherein

the bond lines are substantially vapor impermeable; and

the pattern defines a plurality of closed cells bounded by the second substantially vapor impermeable substrate, the dimensionally stable substrate, and the bond lines; and wherein,

upon impingement of the insulating microwave packaging material by microwave energy in a microwave oven, each of the plurality of closed cells expands to form an insulating pocket comprising:

a bulging side; and

an opposing side; wherein

the bulging side comprises a portion of each of the first substantially vapor impermeable substrate, the microwave interactive material layer, and the dimensionally stable substrate;

the opposing side comprises a portion of the second substantially vapor impermeable substrate; and

the bulging side lofts away from the opposing side.

65. A method of making an insulating microwave packaging material, the method comprising:

providing a first substantially vapor impermeable substrate;

supporting a layer of microwave interactive material on the first substantially vapor impermeable substrate;

bonding a dimensionally stable substrate to the layer of microwave interactive material; and

bonding a second substantially vapor impermeable substrate to the dimensionally stable substrate along bond lines formed in a pattern, wherein

the bond lines are substantially vapor impermeable; and

the pattern defines a plurality of closed cells bounded by the second substantially vapor impermeable substrate, the dimensionally stable substrate, and the bond lines; and wherein,

upon impingement of the insulating microwave packaging material by microwave energy in a microwave oven, each of the plurality of closed cells expands to form an insulating pocket comprising:

a bulging side; and

an opposing side; wherein

the bulging side comprises a portion of the second substantially vapor impermeable substrate;

the opposing side comprises a portion of each of the first substantially vapor impermeable substrate, the microwave interactive material layer, and the dimensionally stable substrate; and

the bulging side lofts away from the opposing side.

66. The method as described claim 64, wherein when a food product is situated adjacent to the first substantially vapor impermeable substrate, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, each of the insulating pockets insulates at least one of the food product and the layer of microwave interactive material from the microwave oven environment to reduce heat transfer from at least one of the food product and the layer of microwave interactive material to the microwave oven environment.

67. The insulating microwave packaging material as described in claim 65, wherein when a food product is situated adjacent to the first substantially vapor impermeable substrate, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, each of the insulating pockets insulates at least one of the food product and the layer of microwave interactive material from the microwave oven

environment to reduce heat transfer from at least one of the food product and the layer of microwave interactive material to the microwave oven environment.

68. The insulating microwave packaging material as described in claim 65, wherein when a food product is situated adjacent to the first substantially vapor impermeable substrate, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, each of the insulating pockets insulates at least one of the food product and the layer of microwave interactive material from a consumer's skin to reduce heat transfer from at least one of the food product and the insulating microwave packaging material to the consumer's skin when the consumer removes the insulating microwave packaging material from the microwave oven after cooking.

69. The method as described claim 64 or 65, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, moisture trapped in the dimensionally stable substrate heats and expands as a vapor, creating pressure, which forms the insulating pocket.

70. The method as described claim 64 or 65, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, the microwave interactive material layer creates sensible heat that further heats moisture trapped in the dimensionally stable substrate, which moisture expands as a vapor, creating pressure, which forms the insulating pocket.

71. The method as described claim 64, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, the microwave interactive material layer creates sensible heat that further heats and softens the first substantially vapor impermeable substrate decreasing resistance of the first substantially vapor impermeable substrate to the formation of the insulating pocket.

72. The method as described claim 65, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, the microwave interactive material layer creates sensible heat that further heats and softens the second substantially vapor impermeable substrate decreasing resistance of the second substantially vapor impermeable substrate to the formation of the insulating pocket.

73. The method as described claim 64, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, the microwave interactive material layer creates sensible heat that further heats the second substantially vapor impermeable substrate, and the second substantially vapor impermeable substrate contracts in at least one of the X and Y directions, enhancing the loft of the bulging side.

74. The method as described claim 64 or 65, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, the opposing side remains substantially flat.

75. The method as described claim 64, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, a distance between the second vapor impermeable substrate and the dimensionally stable substrate in a center of each of the plurality of closed cells increases by at least an order of magnitude more than the distance before such impingement.

76. The method as described claim 64, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, a distance between the second vapor impermeable substrate and the dimensionally stable substrate in a center of each of the plurality of closed cells increases by up to 30 times more than the distance before such impingement.

77. The method as described claim 64 or 65, wherein upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, the microwave interactive material layer becomes insulated from the microwave oven environment to reduce heat transfer from the microwave interactive material layer to the microwave oven environment.

78. The method as described claim 64, wherein the insulating microwave packaging material further comprises:

a first edge; and
a second edge opposite the first edge; and

wherein the method further comprises:

bonding the first edge to the second edge; wherein
the microwave packaging material forms a sleeve for surrounding the food product.

79. The method as described claim 78, wherein
the first substantially vapor impermeable substrate comprises an interior surface of the
sleeve; and
the second substantially vapor impermeable substrate comprises an exterior surface of
the sleeve.

80. The method as described claim 78, wherein the step of bonding the first edge
to the second edge further comprises dispensing an adhesive between the first edge and the
second edge.

81. The method as described claim 79, wherein the step of bonding the first edge
and the second edge further comprises heat sealing the first substantially vapor impermeable
substrate along the first edge to the first substantially vapor impermeable substrate along the
second edge.

82. The method as described in claim 64 or 65, wherein the pattern comprises an
array of shapes selected from a group comprising: a circle, an oval, a curvilinear shape, a
symmetrical curvilinear shape, a triangle, a square, a rectangle, a polygon, a right polygon,
and an equilateral polygon.

83. The method as described in claim 82, wherein the equilateral polygon is a
hexagon.

84. The method as described in claim 82, wherein each of the shapes in the array
is nested with each adjacent shape in the array in a tile-like pattern.

85. The method as described in claim 82, wherein each of the shapes in the array
is elongate and oriented parallel to adjacent shapes.

86. The method as described in claim 64, further comprising:
dividing the insulating microwave packaging material to form a first sheet and a
second sheet;
placing the second substantially vapor impermeable substrate of the first sheet facing
the second substantially vapor impermeable substrate of the second sheet; and
bonding a portion of the first sheet of the insulating microwave packaging material to
a portion of the second sheet of the insulating microwave packaging material.

87. The method as described in claim 86, wherein
the first sheet is defined by a first perimeter;
the second sheet is defined by a second perimeter; and
wherein the step of bonding the first sheet to the second sheet further comprises:
bonding the first sheet to the second sheet at a plurality of points spaced apart along
the first perimeter and the second perimeter, wherein,
the first sheet and the second sheet are substantially unrestricted from
contraction in at least one of the X and Y directions, and wherein
upon impingement of the insulating microwave packaging material by
microwave energy in the microwave oven,
the microwave interactive material layer creates sensible heat that further heats
the second substantially vapor impermeable substrate of each of the first sheet and the second
sheet, and
the second substantially vapor impermeable substrate of each of the first sheet
and the second sheet contracts in at least one of the X and Y directions, enhancing the loft of
the bulging side of each of the insulating pockets.
88. The method as described in claim 86, wherein upon impingement of the
insulating microwave packaging material by microwave energy in the microwave oven,
the first sheet deforms into a convex canopy with respect to a plane dividing the first
sheet and the second sheet; and
a space is created between the first sheet and the second sheet.
89. The method as described in claim 86, wherein upon impingement of the
insulating microwave packaging material by microwave energy in the microwave oven,
the second sheet deforms into a convex canopy with respect to a plane dividing the
first sheet and the second sheet; wherein
a space is created between the first sheet and the second sheet.
90. The method as described in claim 87, wherein
when the food product is situated over at least a portion of the first sheet, and
the second sheet is situated against a surface of the microwave oven,
upon impingement of the insulating microwave packaging material by microwave
energy in the microwave oven,
the microwave interactive material layer of the second sheet heats the surface of the

microwave oven and the first sheet,
counteracting the heat transfer between the food product and the surface of the microwave oven;
augmenting the contraction of the second substantially vapor impermeable substrate of the first sheet; and
enhancing the expansion of each of the plurality of closed cells of the first sheet.

91. The method as described in claim 64, further comprising:
dividing the insulating microwave packaging material to form a first sheet and a second sheet, wherein
the first sheet is defined by a first perimeter, and
the second sheet is defined by a second perimeter;
placing the first substantially vapor impermeable substrate of the first sheet facing the first substantially vapor impermeable substrate of the second sheet; and
bonding at least a portion of the first perimeter to at least a portion of the second perimeter creating a cavity between the first sheet and the second sheet for receiving a food product.

92. The method as described in claim 91 further comprising forming an opening to the cavity between the first sheet and the second sheet.

93. The method as described in claim 92, wherein the opening is large enough to accept the food product, and the cavity comprises a pouch.

94. The method as described in claim 92, wherein the opening is a vent to allow water vapor to escape from the cavity during cooking of the food product.

95. The method as described in claim 91, wherein the step of bonding at least a portion of the first perimeter to at least a portion of the second perimeter further comprises bonding all of the first perimeter to all of the second perimeter, wherein the food product in the cavity is completely enclosed by the first sheet and the second sheet.

96. The method as described in claim 91, wherein the step of dividing further comprises dividing the insulating microwave packaging material to form a third sheet, wherein

the third sheet is defined by a third perimeter; and
wherein the method further comprises:

placing the second substantially vapor impermeable substrate of the second sheet
facing the second substantially vapor impermeable substrate of the third sheet; and

bonding the third sheet to the second sheet at a plurality of points spaced apart along
the third perimeter and the second perimeter; and wherein

when the food product is situated within the cavity, and

the third sheet is situated against a surface of the microwave oven,

upon impingement of the insulating microwave packaging material by microwave
energy in the microwave oven,

the microwave interactive material layer of the third sheet heats the surface of the
microwave oven and the second sheet,

counteracting the heat transfer between the food product and the surface of the
microwave oven;

augmenting the contraction of the second substantially vapor impermeable
substrate of the second sheet; and

enhancing the expansion of each of the plurality of closed cells of the second
sheet.

97. The method as described in claim 64, wherein the first substantially vapor
impermeable substrate comprises a biaxially-oriented polyester film.

98. The method as described in claim 64, wherein the second substantially vapor
impermeable substrate comprises a biaxially-oriented polyester film.

99. The method as described in claim 65, wherein the second substantially vapor
impermeable substrate comprises an amorphous polyester film.

100. The method as described in claim 64 or 65, wherein the microwave interactive
material layer comprises aluminum.

101. The method as described in claim 64 or 65, wherein the dimensionally stable
substrate is selected from a group comprising: paper, paperboard, and plastic.

102. The method as described in claim 64 or 65, wherein the step of bonding the second substantially vapor impermeable substrate and the dimensionally stable substrate further comprises dispensing an adhesive along the bond lines.

103. The method as described in claim 64 or 65 further comprising the step of inactivating portions of the microwave interactive material in the same pattern as the bond lines.

104. The method as described in claim 102, wherein the adhesive penetrates the dimensionally stable substrate to form a substantially vapor impermeable barrier in conjunction with the first substantially vapor impermeable substrate.

105. The method as described in claim 64 or 65, wherein the step of bonding the second substantially vapor impermeable substrate and the dimensionally stable substrate further comprises heat sealing the substantially vapor impermeable substrate to the dimensionally stable substrate along the bond lines.

106. The method as described in claim 105, wherein the step of heat sealing further comprises melting the second substantially vapor impermeable substrate along the bond lines, wherein a melted portion of the second substantially vapor impermeable substrate penetrates the dimensionally stable substrate to form a substantially vapor impermeable barrier in conjunction with the first substantially vapor impermeable substrate.

107. A microwavable baking surface comprising:
a baking substrate containing an aperture;
a first sheet of an insulating microwave packaging material; and
a second sheet of the insulating microwave packaging material; wherein
the first sheet and the second sheet are arranged adjacent to each other and
substantially cover the aperture; and
the insulating microwave packaging material comprises:
a first substantially vapor impermeable substrate;
a layer of microwave interactive material supported by the first substantially
vapor impermeable substrate;
a dimensionally stable substrate bonded to the layer of microwave interactive
material; and
a second substantially vapor impermeable substrate bonded to the

dimensionally stable substrate, wherein

the second substantially vapor impermeable substrate and the dimensionally stable substrate are bonded along bond lines formed in a pattern;
the bond lines are substantially vapor impermeable; and
the pattern defines a plurality of closed cells bounded by the first substantially vapor impermeable substrate, the dimensionally stable substrate, and the bond lines; wherein

upon impingement of the insulating microwave packaging material by microwave energy in a microwave oven, each of the plurality of closed cells expands to form an insulating pocket comprising:

a bulging side; and

an opposing side; wherein

the bulging side comprises a portion of each of the first substantially vapor impermeable substrate, the microwave interactive material layer, and the dimensionally stable substrate;

the opposing side comprises a portion of the second substantially vapor impermeable substrate; and

the bulging side lofts away from the opposing side.

108. The microwavable baking surface as described in claim 107, wherein when a food product is situated adjacent to the first sheet, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, each of the insulating pockets of the second sheet insulates at least one of the food product and the first sheet from the microwave oven environment to reduce heat transfer from at least one of the food product and the layer of microwave interactive material of the first sheet to the microwave oven environment.

109. The microwavable baking surface as described in claim 107, wherein the second substantially vapor impermeable substrate of the first sheet faces the second substantially vapor impermeable substrate of the second sheet.

110. The microwavable baking surface as described in claim 107, wherein, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven,
the microwave interactive material layer of each of the first sheet and the second sheet

creates sensible heat that further heats the second substantially vapor impermeable substrate of each of the first sheet and the second sheet; and

the second substantially vapor impermeable substrate of each of the first sheet and the second sheet contracts in at least one of the X and Y directions, enhancing the loft of the bulging side of each of the insulating pockets.

111. The microwavable baking surface as described in claim 109, wherein the baking substrate further comprises:

a top side; and

a bottom side; and wherein

the first sheet is defined by a first perimeter;

the second sheet is defined by a second perimeter;

a portion of the second substantially vapor impermeable substrate of the first sheet along the first perimeter is bonded to the top side of the baking substrate; and

a portion of the second substantially vapor impermeable substrate of the second sheet along the second perimeter is bonded to the bottom side of the baking substrate.

112. The microwavable baking surface as described in claim 111, wherein the bond between the portion of the second substantially vapor impermeable substrate of the first sheet and the top side of the baking substrate and the bond between the portion of the second substantially vapor impermeable substrate of the second sheet and the bottom side of the baking substrate comprise a temperature sensitive adhesive, and wherein

upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven,

the microwave interactive material layer of each of the first sheet and the second sheet creates sensible heat that further heats the temperature sensitive adhesive;

the temperature sensitive adhesive decomposes at a certain temperature, releasing the bonds; and

the second substantially vapor impermeable substrate of each of the first sheet and the second sheet contracts in at least one of the X and Y directions, enhancing the loft of the bulging side of each of the insulating pockets.

113. The microwavable baking surface as described in claim 109, wherein, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven,

the first sheet deforms into a convex canopy with respect to a plane dividing the first sheet and the second sheet; and

a space is created between the first sheet and the second sheet.

114. The microwavable baking surface as described in claim 109, wherein, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven,

the second sheet deforms into a convex canopy with respect to a plane dividing the first sheet and the second sheet; wherein

a space is created between the first sheet and the second sheet.

115. The microwavable baking surface as described in claim 107, wherein, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, the opposing side remains substantially flat.

116. The microwavable baking surface as described in claim 110, wherein when the food product is situated over at least a portion of the first sheet, and the second sheet is situated against a surface of the microwave oven,

upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven,

the microwave interactive material layer of the second sheet heats the surface of the microwave oven and the first sheet,

counteracting the heat transfer between the food product and the surface of the microwave oven;

augmenting the contraction of the second substantially vapor impermeable substrate of the first sheet; and

enhancing the expansion of each of the plurality of closed cells of the first sheet.

117. The microwavable baking surface as described in claim 107, wherein, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, a distance between the second vapor impermeable substrate and the dimensionally stable substrate in a center of each of the plurality of closed cells of at least one of the first sheet and the second sheet increases by at least an order of magnitude more than the distance before such impingement.

118. The microwavable baking surface as described claim 107, wherein, upon impingement of the insulating microwave packaging material by microwave energy in the microwave oven, a distance between the second vapor impermeable substrate and the dimensionally stable substrate in a center of each of the plurality of closed cells of at least one of the first sheet and the second sheet increases by up to 30 times more than the distance before such impingement.

119. The microwavable baking surface as described in claim 107, wherein the pattern comprises an array of shapes selected from the group comprising: a circle, an oval, a curvilinear shape, a symmetrical curvilinear shape, a triangle, a square, a rectangle, a polygon, a right polygon, and an equilateral polygon.

120. The microwavable baking surface as described in claim 119, wherein the equilateral polygon is a hexagon.

121. The microwavable baking surface as described in claim 119, wherein each of the shapes in the array is nested with each adjacent shape in the array in a tile-like pattern.

122. The microwavable baking surface as described in claim 107, wherein the baking substrate comprises paperboard.

123. The microwavable baking surface as described in claim 107, wherein the baking substrate comprises a susceptor.

124. The microwavable baking surface as described in claim 107, wherein the baking substrate comprises an abuse-tolerant microwave packaging material.

125. The microwavable baking surface as described in claim 107, wherein the baking substrate is disk-shaped.

126. The microwavable baking surface as described in claim 125, wherein the aperture is circular and concentric with the baking surface.

127. The microwavable baking surface as described in claim 107, wherein the food product is a frozen pizza.

128. The microwavable baking surface as described in claim 107, wherein the first substantially vapor impermeable substrate comprises a biaxially-oriented polyester film.

129. The microwavable baking surface as described in claim 107, wherein the second substantially vapor impermeable substrate comprises a biaxially-oriented polyester film.

130. The microwavable baking surface as described in claim 107, wherein the microwave interactive material layer comprises aluminum.

131. The microwavable baking surface as described in claim 107, wherein the dimensionally stable substrate is selected from a group comprising: paper, paperboard, and plastic.

132. The microwavable baking surface as described in claim 107, wherein the bond lines comprise an adhesive.

133. The microwavable baking surface as described in claim 132, wherein the adhesive penetrates the dimensionally stable substrate to form a substantially vapor impermeable barrier in conjunction with the first substantially vapor impermeable substrate.

134. The microwavable baking surface as described in claim 107, wherein the bond lines comprise a heat seal.

135. The microwavable baking surface as described in claim 134, wherein the heat seal is formed by melting the second substantially vapor impermeable substrate along the bond lines, and wherein a melted portion of the second substantially vapor impermeable substrate penetrates the dimensionally stable substrate to form a substantially vapor impermeable barrier in conjunction with the first substantially vapor impermeable substrate.

136. A method of enhancing microwave oven cooking performance of a food product package, the food product package comprising a microwave interactive material, the method comprising:

placing a food product in the food product package adjacent to the microwave interactive material;

printing instructions on the food product package directing a consumer to cover at least a portion of the food product package with an insulating material before placing the food product package in a microwave oven; wherein

the insulating material insulates the microwave interactive material and the food product from the environment of a microwave oven during cooking.

137. The method as described in claim 136, wherein the step of printing instructions further comprises printing an instruction directing the consumer to surround the food product package with the insulating material.

138. The method as described in claim 136, wherein the step of printing instructions further comprises printing an instruction directing the consumer to moisten the insulating material.

139. The method as described in claim 136, wherein the step of printing instructions further comprises printing an instruction directing the consumer to create a vent opening in the food product package.

140. The method as described in claim 136, wherein the microwave interactive packaging material comprises a susceptor.

141. The method as described in claim 136, wherein the insulating material comprises a paper towel.

142. A microwave packaging carton comprising:
a top surface;
a bottom surface;
a first sheet of insulating microwave packaging material according to claim 21; and
a second sheet of insulating microwave packaging material according to claim 21;
wherein

the first sheet of insulating microwave packaging material is affixed to the top surface in a manner allowing the first sheet to contract in at least one of the X and Y directions upon impingement of the insulating microwave packaging material by microwave energy; and

the second sheet of insulating microwave packaging material is affixed to the bottom surface in a manner allowing the first sheet to contract in at least one of the X and Y directions upon impingement of the insulating microwave packaging material by microwave energy.

143. The microwave packaging carton of claim 142, wherein at least one of the first sheet and the second sheet is affixed to the top surface or the bottom surface, respectively, by an adhesive.

144. The microwave packaging carton of claim 142, wherein at least one of the first sheet and the second sheet has at least one slit cut adjacent to a portion of a perimeter of the respective first sheet or the second sheet augmenting the ability of the respective first sheet or the second sheet to contract in at least one of the X and Y directions.

145. A microwave package comprising:

a carton form comprising:

a base with a central fold line;

a first side wall hinged to the base along a first fold line; and a

a second side wall hinged to the base along a second fold line; and

a pouch comprising microwave interactive material, the pouch supported by the carton form; wherein

the pouch is positioned between the base, the first side wall, and the second side wall of the carton form;

the carton form and the pouch may be alternately folded flat and erected to open the pouch; and wherein

when the carton form is erected by opening the folded base into a V-form, the base may be inverted and the carton form is braced open by the base which is held open in tension between the first side wall and the second side wall.

146. The microwave package of claim 145, wherein the first fold line and the second fold line are convexly curved so that, upon inverting, the base of the carton form assumes a concavely curved form with the first side wall and the second side wall of the carton form bowed or convexly curved.

147. The microwave package of claim 145, wherein the pouch is affixed to at least one of the first side wall and the second side wall of the carton form.

148. The microwave package of claim 145, wherein the microwave interactive material comprises insulating microwave packaging material according to claim 21.

149. A microwave cooking container comprising:
a first end, wherein the first end contains a first aperture;
a second end, wherein the second end contains a second aperture; and
a body, wherein the body comprises a microwave interactive material; and wherein
a food product is at least partially surrounded by the body;

the first end provides a foundation for maintaining the container in an upright position
when the first end is placed upon a surface;

the first aperture in the first end is exposed to a source of air in a cooking environment
when the first end is placed upon a surface; and

a draft is created during a cooking cycle in a microwave oven wherein air is ported
through the first aperture and vented through the second aperture.

150. The microwave cooking container of claim 149, wherein the microwave
interactive material comprises an insulating microwave interactive material according to
claim 21.

151. The microwave cooking container of claim 149, wherein the microwave
interactive material comprises an insulating microwave interactive material according to
claim 22.

152. The microwave cooking container of claim 149, wherein the body further
comprises an exterior surface; and

the exterior surface further comprises an insulating material that reduces heat transfer
from the container to a consumer touching the container.

153. The microwave cooking container of claim 149, wherein the body further
comprises an interior surface; and

at least a first portion of the interior surface further comprises the microwave
interactive material.

154. The microwave cooking container of claim 153, wherein a second portion of
the interior surface of the body does not comprise the microwave interactive material; and
the body further comprises an exterior surface;

wherein a portion of the exterior surface opposite the second portion of the
interior surface reduces the heat transfer from the container to a consumer touching the
container.

155. The microwave cooking container of claim 154, wherein the portion of the exterior surface opposite the second portion of the interior surface is frusto-conical inshape.

156. The microwave cooking container of claim 149, wherein
the body further comprises an upper portion having the first end and a lower portion
having the second end;
the upper portion and the lower portion are each of separate construction; and
the upper portion is attached to the lower portion at a common interface between the
upper portion and the lower portion.